Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (currently amended) A method for determining a refractive correction for an eye, the method comprising:

measuring ~~an~~ a high-order optical error of the eye;

calculating at least one image quality parameter for a selected spatial frequency or range of spatial frequencies, based on the measured optical error of the eye, wherein the selected frequency is or range of frequencies are selected in response to capabilities of photoreceptors of the eye; and

forming a plan for refractive correction of the optical error, based on the calculated image quality parameter.

2. (original) A method as in claim 1, wherein measuring the optical error comprises measuring at least one wavefront aberration with a wavefront of light passing through the optical components of the eye, using a wavefront sensor.

3. (original) A method as in claim 2, wherein the wavefront aberration is measured with the pupil of the eye having a diameter of between about 4 mm and about 6 mm.

4. (original) A method as in claim 1, wherein calculating at least one image quality parameter comprises calculating at least one modulation transfer function.

5. (original) A method as in claim 4, wherein calculating at least one modulation transfer function comprises calculating a plurality of modulation transfer functions corresponding to a plurality of potential refractive corrections.

6. (original) A method as in claim 5, wherein forming a plan for refractive correction comprises selecting one of the potential refractive corrections, wherein the selected refractive correction corresponds to a highest modulation transfer function of the plurality of modulation functions, at the selected spatial frequency.

7. (currently amended) ~~A method as in claim 5,~~ A method for determining a refractive correction for an eye, the method comprising:

measuring an optical error of the eye;

calculating at least one image quality parameter for a selected spatial frequency or range of spatial frequencies, based on the measured optical error of the eye, wherein calculating at least one image quality parameter comprises calculating a plurality of modulation transfer functions corresponding to a plurality of potential refractive corrections; and

forming a plan for refractive correction of the optical error, based on the calculated image quality parameter, wherein forming a plan for refractive correction comprises selecting one of the potential refractive corrections, wherein the selected refractive correction corresponds to a largest total volume modulation transfer function of the plurality of modulation functions, over the selected range of spatial frequencies.

8. (currently amended) ~~A method as in claim 5,~~ A method for determining a refractive correction for an eye, the method comprising:

measuring an optical error of the eye;

calculating at least one image quality parameter for a selected spatial frequency or range of spatial frequencies, based on the measured optical error of the eye, including calculating a plurality of modulation transfer functions corresponding to a plurality of potential refractive corrections; and

forming a plan for refractive correction of the optical error, based on the calculated image quality parameter by ~~wherein forming a plan for refractive correction comprises~~ selecting one of the potential refractive corrections, wherein the selected refractive correction

corresponds to a highest average modulation transfer function of the plurality of modulation functions, over the selected range of spatial frequencies.

9. (original) A method as in claim 1, wherein calculating at least one image quality parameter comprises calculating at least one modified Strehl ratio.

10. (currently amended) ~~A method as in claim 9,~~ A method for determining a refractive correction for an eye, the method comprising:

measuring an optical error of the eye;

calculating at least one image quality parameter for a selected spatial frequency or range of spatial frequencies, based on the measured optical error of the eye, including calculating at least one modified Strehl ratio; and

forming a plan for refractive correction of the optical error, based on the calculated image quality parameter;

wherein calculating at least one modified Strehl ratio comprises calculating a plurality of modified Strehl ratios corresponding to a plurality of potential refractive corrections within the selected range of spatial frequencies comprising about 0 cycles/degree to about 60 cycles/degree.

11. (original) A method as in claim 10, wherein forming a plan for refractive correction comprises selecting one of the potential refractive corrections, wherein the selected refractive correction corresponds to a highest modified Strehl ratio of the plurality of modified Strehl ratios.

12. (original) A method as in claim 1, wherein the selected spatial frequency comprises about 30 cycles/degree.

13. (original) A method as in claim 1, wherein the selected spatial frequency comprises about 37.5 cycles/degree.

14. (original) A method as in claim 1, wherein the selected spatial frequency comprises about 48 cycles/degree.

15. (original) A method as in claim 1, wherein the selected spatial frequency comprises about 60 cycles/degree.

16. (original) A method as in claim 1, wherein the selected range of spatial frequencies comprises about 0 cycles/degree to about 60 cycles/degree.

17. (original) A method as in claim 1, wherein the selected range of spatial frequencies comprises about 20 cycles/degree to about 60 cycles/degree.

18. (original) A method as in claim 1, wherein the selected range of spatial frequencies comprises about 0 cycles/degree to about 80 cycles/degree.

19. (original) A method as in claim 1, wherein forming a plan for refractive correction comprises calculating an ablation pattern for a corneal tissue of the eye, based at least partly on the calculated image quality parameter.

20. (original) A method as in claim 19, further comprising ablating the corneal tissue of the eye according to the ablation pattern.

21. (currently amended) A system for determining a refractive correction for an eye, the system comprising:

a sensor for measuring **[[an]]** a high-order optical error of the eye; and

a processor for generating a refractive correction pattern based at least in part on an image quality parameter for a selected spatial frequency or range of spatial frequencies, the spectral frequency or range of spatial frequencies corresponding to the capabilities of photoreceptors of the eye, the image quality parameter being based on the optical error.

22. (original) A system as in claim 21, wherein the sensor comprises a wavefront sensor.

23. (original) A system as in claim 21, wherein the image quality parameter comprises at least one modulation transfer function.

24. (original) A system as in claim 21, wherein the image quality parameter comprises at least one modified Strehl ratio.

25. (original) A system as in claim 24, wherein the modified Strehl ratio comprises a Strehl ratio limited to a range of spatial frequencies of between about 0 cycles/degree and about 60 cycles/degree.

26. (original) A system as in claim 21, wherein the refractive correction pattern comprises an ablation pattern of laser energy for ablation of a corneal tissue of the eye so as to correct the measured optical error.

27. (original) A system as in claim 26, the system further comprising a laser system for directing laser energy onto the corneal tissue of the eye to achieve the generated ablation pattern.

28. (currently amended) A system for correcting **[[an]]** a high-order optical error of an eye, the system comprising:

a sensor for measuring the optical error of the eye;

a processor for generating an ablation pattern of laser energy for ablation of a corneal tissue of the eye so as to correct the measured optical error, the ablation pattern based at least in part on an image quality parameter for a selected spatial frequency or range of spatial frequencies, the spectral frequency or range of spatial frequencies being limited to less than 60 cycles/degree so as to correspond to the capabilities of photoreceptors of the eye, the image quality parameter being based on the optical error; and

a laser system for directing laser energy onto the corneal tissue of the eye to achieve the generated ablation pattern.

29. (currently amended) A device for determining a high-order refractive correction for an eye, the device comprising a software module for processing at least one measurement of the eye to provide the refractive correction of the eye, the software module comprising computer-readable media embodying instructions for determining an image quality parameter for a spatial frequency or range of spatial frequency corresponding to capabilities of photoreceptors of the eye, and for outputting the correction.

30. (original) A device as in claim 29, wherein the at least one measurement comprises at least one wavefront measurement.

31. (original) A device as in claim 29, wherein the software module calculates at least one modulation transfer function, based on the at least one measurement.